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*Experimental*  
**CORN HYBRIDS**  
**1954 TESTS**

By R. W. Jugenheimer

Bulletin 584 · UNIVERSITY OF ILLINOIS  
AGRICULTURAL EXPERIMENT STATION

Location of regular  
experimental-hybrid  
test fields



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# EXPERIMENTAL CORN HYBRIDS: 1954 TESTS

By R. W. JUGENHEIMER, Professor of Plant Genetics and  
Corn Research Coordinator

**T**HIS REPORT summarizes the results of tests of experimental corn hybrids conducted in 1954 by this Station. Trials were made at four locations: in DeKalb county in northern Illinois, in Peoria county in north-central Illinois, in Champaign county in central Illinois, and in Fayette county in south-central Illinois. These four locations are representative of the soil, rainfall, and length of growing season in their respective areas.

Hybrids were compared for yield, maturity, resistance to lodging, and other agronomic characters. Only hybrids of similar maturity were tested on the same field. A familiar hybrid whose maturity was considered the standard for the group is named in each table heading.

Since most of the hybrids whose performance is recorded here are not yet in commercial use, the information about them is of most value to producers of hybrid seed. The 1954 performance of hybrids available in commercial quantities to farmers is reported in Bulletin 585 of this Station.

## MATERIAL TESTED

One hundred forty-seven different double-cross hybrids were grown at the four locations. Most of the Illinois hybrids were developed by the author. The seed was produced by controlled hand-pollination.

Two sets of single crosses and four sets of three-way crosses differing in maturity were tested in 1954. One set of single crosses (Table 3) and all sets of three-way crosses (Tables 5, 8, 9, and 11) are a part of the "uniform" tests conducted cooperatively by corn-belt states, including Illinois, and the U. S. Department of Agriculture. Seed of the unreleased inbred lines involved in these crosses was contributed by the state or by the federal corn breeder who developed them. Single crosses whose performance

is reported in Table 7 were developed by the Illinois Station and tested only in Illinois.

The following individuals are responsible at the present time for collecting seed of inbred lines, making the crosses, and distributing crossed seed of the entries in the uniform tests: E. C. Rossman (Michigan), N. P. Neal (Wisconsin), and G. H. Stringfield (Ohio) — Table 3; J. H. Lonnquist (Nebraska), R. W. Jugenheimer (Illinois), and G. F. Sprague (Iowa) — Tables 5 and 8; M. T. Jenkins (U. S. Department of Agriculture), A. M. Brunson (Indiana), and A. J. Ullstrup (Indiana) — Table 9; L. A. Tatum (Kansas), W. R. Findley (U. S. Department of Agriculture), and M. S. Zuber (Missouri) — Table 11.

The University of Illinois does not produce hybrid seed corn in commercial quantities. If a hybrid gives satisfactory performance, the parental lines are released for use by seedsmen. Hybrids that include new inbred lines are produced under the "delayed release" program adopted by most of the states in the corn belt. Multiplication of a new line is handled by the Station, and the production of single crosses in quantity is handled by the Illinois Seed Producers Association, Champaign, Illinois. After a satisfactory probationary period of two to five years, a new line is released to the public.

Table 12 (see pages 29 to 32) lists the double-cross hybrids whose performance is shown in this report and the tables in which each appears. It also contains the pedigrees of the hybrids tested. In the pedigrees, the order of the single crosses and of the lines in the single crosses has no significance; it does not indicate which should be used as seed or pollen parent in the production of a hybrid.

Illinois yellow hybrids are numbered consecutively below 2000 and above 6000. White hybrids are numbered in the 2000 series; these are usually followed by the letter *W*. Hybrids that have performed well after wide testing in several corn-belt states have been designated AES (Agricultural Experiment Station) hybrids. Hybrids in the 600 series are similar to Illinois 1277 in maturity; those in the 700 series correspond in maturity to Illinois 21; those in the 800 series correspond to U. S. 13; and hybrids in the 900 series to Illinois 448.

The letter *A* or *B* following an Illinois hybrid number indi-

cates that the combination of inbred lines making up the hybrid has been rearranged or permuted. For example, if the original pedigree of an Illinois hybrid was  $(1 \times 2) (3 \times 4)$ , the letter *A* following the number means that the hybrid was put together  $(1 \times 3) (2 \times 4)$ , the letter *B*,  $(1 \times 4) (2 \times 3)$ . A difference in reciprocals is not recognized in this method. When a short dash (—) followed by a number occurs as part of an Illinois hybrid number, it means that a tested related line has been substituted for one of the inbred lines included in the original hybrid.

Performance of three-way and single-cross hybrids is of interest to corn breeders, producers of hybrid seed corn, and to farmers. Characteristics of single crosses such as yield, standability, seed size, shape, and quality definitely affect the practical production of hybrid seed corn. Some farmers are interested in growing single-cross and three-way-cross hybrids commercially because of their attractive appearance and extreme uniformity. Use of single-cross and three-way-cross data for the prediction of desirable double-cross combinations creates additional interest in the performance of single crosses.

Prediction studies are an extremely valuable part of a research program. Methods are available to predict the performance of the better hybrid combinations without making and testing large numbers of undesirable crosses. For example, 1,225 single crosses and 690,900 double crosses are possible with 50 inbred lines. However, by using single-cross performance data, the corn breeder can predict which of the many possible double-cross combinations are likely to be most desirable. The following six single crosses can be made with four inbred lines:  $A \times B$ ,  $A \times C$ ,  $A \times D$ ,  $B \times C$ ,  $B \times D$ , and  $C \times D$ . The average performance of the four non-parental single crosses gives the predicted performance of a specific double-cross hybrid. For instance, the average yields of the four single crosses  $A \times C$ ,  $A \times D$ ,  $B \times C$ , and  $B \times D$  give the predicted yield of double cross  $(A \times B) (C \times D)$ . The procedure in predicting acre yields of two hybrids is shown on page 78 of Illinois Agricultural Experiment Station Bulletin 543.

Similar predictions can be made for other characteristics. Predicted hybrid combinations, however, should always be thoroughly tested under field conditions before being put into commercial production.

Three-way crosses also provide useful predictions of the performance of double-cross hybrids. A large number of inbred lines can be compared, and the method is especially valuable where a desirable seed parent single cross is available for use as a tester. Three-way crosses provide information on specific hybrids and may often eliminate the time and expense required for testing inbred lines in top crosses and single crosses.

The procedure in predicting acre yields and percentage of erect plants from three-way-cross data is shown below. The three-way-cross data are taken from Table 5. One hybrid is much more promising than the other hybrid.

(Oh28xOh43)(B38xWF9)

(Oh28xOh43)(N9206xOh5)

	<i>Bushels per acre</i>	<i>Percent of erect plants</i>		<i>Bushels per acre</i>	<i>Percent of erect plants</i>
(Oh28xOh43)xB38	119	93	(Oh28xOh43)xN9206	99	58
(Oh28xOh43)xWF9	106	92	(Oh28xOh43)xOh5	96	77
	2   225	2   185		2   195	2   135
Prediction	112.5	92.5	Prediction	97.5	67.5

## MEASURING PERFORMANCE

All plots in these tests were planted, thinned, and harvested by hand in well-fertilized fields prepared in the usual way for corn. Individual plots were 2 x 5 hills in area. Six kernels were planted in hills spaced 40 inches apart. The plots were thinned to four plants per hill at DeKalb, Peoria, and Champaign, and to three per hill at Brownstown.

General information including dates of planting and harvesting is given in Table 1. Lattice-square designs were used to ob-

Table 1.—GENERAL INFORMATION: Tests of Illinois  
Experimental Corn Hybrids, 1954

County <sup>a</sup>	Section of state	Number of repli- cations	Number of hills per plot	Plants per hill	Date of—	
					Planting	Har- vesting
DeKalb.....	Northern	4	10	4	May 13	Oct. 19
Peoria.....	North-Central	4	10	4	May 17	Oct. 14
Champaign....	Central	4	10	4	May 11	Nov. 4
Fayette.....	South-Central	4	10	3	May 18	Nov. 9

<sup>a</sup> The fields are located near the following cities and towns: in DeKalb county near DeKalb, in Peoria county near Peoria, in Champaign county near Urbana, and in Fayette county near Brownstown.

tain the data reported in Tables 2, 3, 4, 6, 7, and 10. The data in Tables 5, 8, 9, and 11 were obtained in randomized blocks. Four replications were grown of each entry.

## RESULTS OF THE TESTS

Data obtained from the tests are summarized in Tables 2 to 11. Long-time averages are more reliable indexes of the performance of hybrids than a single year's result. The parts of the tables summarizing the results of two or more years therefore deserve the most weight when the results are studied.

Hybrids are listed in the tables in the order of their yield. Acre yields are reported as shelled grain containing 15.5 percent moisture, the maximum allowable for No. 2 corn. The crop from one replication of each entry at each location was shelled to determine the shelling percentage and moisture percentage. The percentage of moisture in the shelled grain was obtained with a Steinlite moisture meter. Erect plants at harvest and stand were determined from actual counts on all replications of each test.

Data from all plots are included in the report on yield. The only correction for imperfect stands was the following adjustment for missing hills:

$$\text{Corrected weight} = \text{Field weight} \times \frac{\left( \frac{\text{Number of hills}}{\text{per plot}} \right) - \left( \frac{0.3 \times \text{Number of missing}}{\text{hills per plot}} \right)}{\left( \frac{\text{Number of hills}}{\text{per plot}} \right) - \left( \frac{\text{Number of missing}}{\text{hills per plot}} \right)}$$

This adjustment adds 0.7 percent of the average hill yield for each missing hill, and assumes that 0.3 percent is made up by the increased yield of surrounding hills.

Relative performance cannot be determined with absolute accuracy by any method of testing. Small differences between entries are seldom of any significance. In fact, small differences are to be expected among plots planted even with the same lot of seed. Variations in growing conditions such as soil fertility are reduced but not completely eliminated by replicating the same entry several times in the same test. Unavoidable variation may be determined by a mathematical procedure known as analysis of variance. From this procedure a figure may be obtained that represents the number of bushels by which two entries must differ in yielding ability before they can be considered

significantly different. Note, for example, in Table 2E that unless any two entries differ by at least 10 bushels per acre there is no statistical difference between them in yielding ability.

The season was favorable for corn at DeKalb and Peoria. The growing season at Urbana was hot and dry, with resulting low yields. Yields were unusually low at Brownstown because of the extremely hot and dry growing season.

The following double crosses were average or better in yield and standability, and average or earlier in maturity as measured by the percent of moisture in the grain. The hybrids are arranged in order of yield.

#### *Northern Illinois*

Five-year average (Table 2A) — Ill. 1289, Ill. 1555A, Ill. 1559B, Ill. 1557, Ill. 1560A.

Four-year average (Table 2B) — Ill. 1289, AES 702, Ill. 1555A, Ill. 1557, Ill. 1558, Ill. 1559B, Ill. 1279.

Three-year average (Table 2C) — Ill. 1277, Ill. 1279, Ill. 1555A.

Two-year average (Table 2D) — Ill. 1289, Ill. 1555A, Ill. 1279.

1954 results (Table 2E) — Ill. 21, Ill. 1555A, AES 702, Ill. 1289, Ill. 2247W, Ill. 1279, Ill. 101, Ill. 1864, Ill. 1560A.

#### *North-Central Illinois*

Five-year average (Table 4A) — Ill. 1555A, Ill. 1560A.

Four-year average (Table 4B) — Ill. 274-1, Ill. 1575, Ill. 1555A.

Three-year average (Table 4C) — Ill. 274-1, Ill. 1575, Ill. 1555A, Ill. 1277.

Two-year average (Table 4D) — Ill. 1332, Ill. 274-1, Ill. 1511, Ill. 1555A, Ill. 1575.

1954 results (Table 4E) — Ill. 1511, Ill. 1332, Ill. 1919, Ill. 1617, Ill. 1905, Ill. 274-1, Ill. 1875, Ill. 1914, Ill. 1555A, Ill. 1896A.

#### *Central Illinois*

Five-year average (Table 6A) — Ill. 1332, Ill. 972A-1.

Four-year average (Table 6B) — Ill. 1511, Ill. 1421, Ill. 1332, Ill. 972A-1, Ill. 1777.

Three-year average (Table 6C) — Ill. 1332, AES 801, Ill. 972A-1, AES 802.

Two-year average (Table 6D) — Ill. 1332, AES 802, AES 801, Ill. 21, Ohio 4808.

1954 results (Table 6E) — Ill. 1896, Ill. 1913, Ill. 1919, Ill. 1911, Ill. 1777, Ill. 1332, Ill. 1908, Ill. 1915, Ill. 1909, AES 801, Ill. 21.

*South-Central Illinois*

Five-year average (Table 10A) — Ill. 1539A, Ill. 1349, Ill. 1332.

Four-year average (Table 10B) — Ill. 1332, Ill. 1656, Ill. 1349, Ill. 1539A.

Three-year average (Table 10C) — Ill. 1656, Ill. 1332, Ill. 1349.

Two-year average (Table 10D) — Ill. 1859, Ill. 2246W, Ill. 1332, Ill. 1656, Ill. 6076, AES 803, Ill. 1349, Ill. 1893.

1954 results (Table 10E) — Ill. 1656, Ill. 1332, Ill. 1859, Ill. 1539A, Ill. 1856, Ill. 1852, Ill. 2246W, Ill. 1349, Ill. 1893, Mo. 804, Ill. 1771, AES 805, Ill. 1914, Ill. 1896.

**Table 2. — DOUBLE CROSSES OF ILLINOIS 1277 MATURITY**  
**Tested in Northern Illinois, 1950-1954**

(Entries in boldface were average or better in yield and standability  
 and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
<b>A — Five-year averages, 1950-1954</b>							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
1	Ill. 1289.....	101	24	78	96	98	36
2	Ill. 1277.....	99	24	78	94	98	39
3	Ill. 1575.....	99	26	78	97	99	39
4	Ill. 1555A.....	98	21	80	96	97	38
5	Ill. 1559B.....	98	23	78	98	98	33
6	Ill. 1557.....	98	24	76	98	96	35
7	Ill. 1560A.....	97	23	79	100	98	36
8	Ill. 1279.....	97	24	78	95	98	39
9	Ill. 1280.....	97	24	78	95	97	37
10	Ill. 1290.....	97	25	78	95	95	39
11	Ill. 1091A.....	96	26	77	96	98	40
12	Ill. 1558.....	95	26	76	98	97	34
13	Ill. 101.....	94	24	77	97	97	37
14	Ill. 21.....	94	27	76	94	98	46
15	Ill. 1375.....	92	23	78	96	98	35
16	Ill. 1595.....	92	24	77	97	98	41
	Average.....	96	24	78	96	98	38
<b>B — Four-year averages, 1951-1954</b>							
1	Ill. 1493.....	109	26	79	98	97	40
2	Ill. 1289.....	108	24	78	96	97	36
3	Ill. 1575.....	108	27	77	97	98	40
4	Ill. 1277.....	107	24	78	95	97	40
5	AES 702.....	107	24	75	96	99	42
6	Ill. 1555A.....	106	22	80	96	98	41
7	Ill. 1280.....	106	24	78	95	97	38
8	Ill. 1557.....	106	24	76	98	96	36
9	Ill. 21.....	106	26	76	94	97	48
10	Ill. 1558.....	105	25	77	98	97	36
11	Ill. 1559B.....	104	24	78	98	98	35
12	Ill. 1279.....	104	25	78	96	98	39
13	Ill. 1290.....	104	25	78	94	96	39
14	Ill. 101.....	104	26	78	97	98	38
15	Ill. 1560A.....	103	24	78	100	98	37
16	Ill. 1091A.....	103	27	77	95	97	40
17	Ill. 1281.....	102	26	78	96	97	36
18	Ill. 1585.....	101	24	77	94	94	37
19	Ohio K24.....	100	22	80	95	95	37
20	Ill. 1579.....	100	24	79	97	98	34
21	Ill. 1595.....	99	25	77	97	97	42
22	Ill. 1375.....	98	24	78	96	98	34
	Average.....	104	25	78	96	97	38

(Table is continued on next page)



Table 2. — Continued

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
<b>C — Three-year averages, 1952-1954</b>							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
1	Ill. 21.....	120	22	79	95	97	47
2	Ill. 1575.....	120	23	79	99	98	40
3	Ill. 1277.....	119	21	79	96	97	39
4	AES 702.....	119	23	77	97	98	41
5	Ill. 1493.....	118	23	77	98	97	38
6	Ill. 1289.....	118	25	78	96	97	37
7	Ill. 1279.....	117	20	79	96	98	38
8	Ill. 1280.....	117	21	80	95	95	38
9	Ill. 101.....	117	22	80	97	99	37
10	I.S.P. 2.....	117	24	76	99	99	37
11	Ill. 1557.....	116	23	78	98	96	37
12	Ill. 1559B.....	115	22	80	98	98	36
13	Ill. 1558.....	115	22	78	98	96	36
14	Ill. 1091A.....	115	23	78	95	96	41
15	Ill. 1555A.....	114	20	81	97	97	41
16	Ill. 1290.....	114	22	79	95	95	38
17	Ill. 1281.....	113	22	78	97	97	37
18	Ill. 1560A.....	112	21	78	99	97	37
19	Ill. 1585.....	111	21	78	93	94	37
20	Ind. 0421.....	109	19	81	97	99	37
21	Ill. 1579.....	109	20	79	96	96	34
22	Ill. 1595.....	109	21	77	98	98	41
23	Ohio K24.....	108	20	80	97	95	36
24	Ill. 1800.....	108	21	79	97	97	36
25	Ill. 1799.....	107	19	81	98	100	38
26	Ill. 1802.....	107	20	80	98	96	38
27	Ill. 1375.....	107	20	80	96	97	35
28	AES 610.....	105	20	80	93	96	31
29	Ohio M15.....	101	19	82	91	96	42
	Average.....	113	21	79	96	97	38
<b>D — Two-year averages, 1953-1954</b>							
1	Ill. 1902.....	132	22	79	92	100	40
2	Ill. 1575.....	126	23	80	98	98	40
3	Ill. 21.....	124	21	79	94	96	46
4	Ill. 1277.....	124	22	80	95	96	39
5	Ill. 1493.....	124	23	79	98	96	38
6	Ill. 1861.....	123	20	82	94	98	37
7	Ill. 1559B.....	123	22	81	97	99	36
8	Ill. 1289.....	122	21	79	96	97	36
9	Ill. 101.....	122	22	81	96	98	36
10	Ill. 1863.....	122	23	80	96	98	34
11	Ill. 1557.....	122	23	79	96	96	36
12	Ill. 1555A.....	120	20	82	96	96	40
13	Ill. 1279.....	120	20	80	95	98	37
14	Ill. 1281.....	120	22	80	96	96	36
15	Ill. 1091A.....	120	22	78	93	96	40
16	AES 702.....	120	22	77	96	98	40
17	Ill. 1865.....	118	22	80	96	96	34
18	Ill. 1866.....	118	22	80	94	97	36
19	Ill. 1280.....	118	22	80	93	96	37
20	Ill. 1585.....	117	21	80	90	97	36
21	I.S.P. 2.....	117	24	77	98	99	36
22	Ind. 0421.....	116	20	82	96	98	37
23	Ill. 1560A.....	116	20	79	99	96	36
24	Ill. 1290.....	116	22	80	94	94	38
25	Ill. 1558.....	116	22	78	97	96	34
26	Ill. 1864.....	115	20	82	96	98	32
27	Ill. 1375.....	114	20	81	95	98	35
28	Ill. 1595.....	114	22	79	97	96	40
29	Ill. 6074.....	114	24	80	90	96	42
30	Ill. 1862.....	113	21	80	96	94	31

(Table is concluded on next page)

Table 2. — Concluded

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
D — Two-year averages, 1953-1954 (concluded)								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
31	Ill. 1579.....	111	21	80	94	96	34	...
32	Ill. 1799.....	110	19	82	96	99	38	...
33	Ohio K24.....	110	20	82	96	94	36	...
34	Ill. 1802.....	110	20	80	98	98	36	...
35	Ill. 1800.....	108	21	80	95	97	34	...
36	AES 610.....	106	20	82	90	95	32	...
37	Ohio M15.....	104	20	82	88	96	41	...
	Average.....	117	21	80	95	97	37	
E — 1954 results (4 replications)								
1	Ill. 1902.....	149	27	78	90	100	41	0
2	M14×WF9.....	140	25	78	90	98	36	0
3	Ill. 1861.....	140	23	80	89	99	36	3.2
4	Ill. 1281.....	139	27	79	95	99	41	1.2
5	Ill. 1559B.....	138	27	77	96	99	39	.7
6	Ill. 1575.....	137	28	77	96	97	43	2.0
7	Ill. 21.....	137	25	77	93	96	46	3.4
8	Ill. 1555A.....	137	26	79	96	94	40	3.3
9	Ill. 1493.....	137	28	78	97	92	41	0
10	AES 702.....	136	26	77	95	99	39	3.8
11	Ill. 1557.....	136	28	77	94	98	38	.6
12	Ill. 1289.....	135	26	77	92	98	39	4.9
13	Ill. 2247W.....	134	25	78	93	94	42	3.1
14	Ill. 1279.....	133	25	78	92	97	38	3.3
15	Iowa 4630.....	133	24	79	88	96	36	2.6
16	Ill. 1277.....	133	26	79	91	94	42	5.3
17	Ill. 101.....	131	26	79	95	97	39	4.2
18	Ill. 1866.....	129	27	78	90	94	38	.7
19	Ill. 1864.....	128	24	78	95	96	32	5.8
20	Ill. 1091A.....	128	27	77	90	97	42	2.9
21	I.S.P. 2.....	127	28	76	97	100	35	1.4
22	Ill. 1560A.....	127	24	77	98	96	38	1.2
23	Ill. 1290.....	127	27	78	88	94	39	2.8
24	Ill. 1595.....	127	28	79	95	97	43	.7
25	Ill. 1903.....	126	24	77	97	96	40	2.7
26	Ill. 1585.....	126	26	78	88	95	38	3.8
27	Ill. 1375.....	126	25	79	91	96	38	2.6
28	Ind. 0421.....	126	25	80	93	98	38	3.5
29	Ill. 1280.....	125	26	79	87	94	37	3.3
30	Ill. 1863.....	125	28	79	94	97	33	1.5
31	AES 510.....	124	23	80	93	93	39	2.1
32	Ill. 6015.....	123	32	75	83	95	62	.6
33	Ill. 1865.....	122	27	78	93	98	34	3.1
34	Ill. 1579.....	122	25	78	90	96	35	1.9
35	Ill. 6074.....	121	29	78	88	94	42	2.0
36	Ill. 1799.....	121	22	79	93	99	39	3.1
37	Ill. 6052.....	120	32	76	87	94	51	.6
38	Ill. 1558.....	120	26	76	95	93	36	2.2
39	Ill. 1802.....	120	24	78	97	96	38	2.6
40	Ill. 1862.....	119	25	79	92	88	30	1.9
41	Ohio K24.....	119	23	80	94	93	37	3.9
42	Minn. 40.....	119	23	78	92	94	38	0
43	Iowa 4558.....	117	22	80	89	92	35	4.3
44	Minn. 4.....	117	23	80	92	92	40	3.3
45	Ill. 1800.....	117	26	78	90	96	35	2.6
46	AES 610.....	116	23	80	84	95	34	1.4
47	Ohio M15.....	112	24	82	84	95	43	3.9
48	Ill. 6062.....	103	33	75	86	96	55	1.7
49	Ohio 5305.....	97	22	78	96	91	38	.8
	Average.....	127	26	78	92	96	39	2.4
	Significant difference.....	10	..	..	7	8	4	...

**Table 3.—SINGLE AND DOUBLE CROSSES  
OF ILLINOIS 1277 MATURITY  
Tested in Northern Illinois, 1954**

(Entries in **boldface** were average or better in yield and standability  
and average or earlier in maturity)

Code	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
<b>A—Single crosses</b>								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
1	M14×B14.....	149	25	81	97	94	38	0
2	M14×B21.....	131	25	80	88	97	37	2.0
3	M14×A223.....	114	23	79	85	97	34	1.2
4	B14×B21.....	121	30	79	83	97	45	1.3
5	<b>B14×A223.....</b>	138	22	80	99	94	36	.7
6	B21×A223.....	126	23	79	97	90	37	1.2
7	<b>A239×M14.....</b>	134	24	81	98	97	39	0
8	<b>A239×B14.....</b>	129	24	83	100	99	40	0
9	A239×B21.....	108	22	82	97	89	37	.8
11	A295×M14.....	119	25	77	93	98	36	.6
12	<b>A295×B14.....</b>	142	24	79	97	93	42	0
13	A295×B21.....	124	23	78	92	86	40	.6
14	A295×A223.....	107	21	77	94	98	38	8.1
15	A295×A239.....	124	21	79	88	98	41	0
16	A297×M14.....	122	22	80	96	97	40	0
17	<b>A297×B14.....</b>	139	24	81	100	95	42	0
18	A297×B21.....	143	22	81	92	100	43	5.1
19	A297×A223.....	112	22	81	96	98	38	.6
20	A297×A239.....	115	22	82	98	98	39	.7
21	A297×A295.....	115	22	79	93	96	41	3.8
22	<b>A545×M14.....</b>	136	24	81	95	96	38	0
23	A545×B14.....	135	27	82	99	96	45	0
24	A545×B21.....	134	25	82	95	88	40	0
25	A545×A223.....	118	23	78	94	100	35	.6
26	A545×A239.....	139	24	81	93	96	42	.6
27	A545×A295.....	125	23	74	92	99	40	.6
28	<b>A545×A297.....</b>	131	24	80	96	100	43	0
29	Oh26A×M14.....	126	24	79	85	96	41	0
30	Oh26A×B14.....	138	25	78	99	95	42	0
31	Oh26A×B21.....	121	23	80	96	86	40	1.3
32	Oh26A×A223.....	118	20	81	99	83	37	0
33	Oh26A×A239.....	122	22	80	94	87	38	0
34	Oh26A×A295.....	115	22	75	99	96	39	0
35	Oh26A×A297.....	123	22	80	96	98	38	1.9
36	Oh26A×A545.....	138	26	79	98	99	44	2.1
37	<b>W64A×M14.....</b>	135	23	78	96	98	33	.6
38	W64A×B14.....	144	26	79	99	97	37	.7
39	W64A×B21.....	115	22	78	90	83	35	1.5
40	W64A×A223.....	126	23	78	98	96	35	3.2
41	W64A×A239.....	120	22	78	97	98	36	.7
42	W64A×A295.....	123	25	76	95	96	37	1.9
43	<b>W64A×A297.....</b>	135	23	78	98	97	40	1.2
44	W64A×A545.....	136	27	78	97	93	37	1.3
45	W64A×Oh26A.....	110	24	77	97	89	36	0
	Average.....	127	24	79	95	95	39	1.0
	Significant difference.....	12	..	..	6	12	3	...
<b>B—Double crosses</b>								
	Ill. 1863.....	143	27	79	96	99	35	2.0
	AES 702.....	139	27	76	94	98	44	3.2
	Ill. 1289.....	134	28	78	99	98	38	1.3
	Ohio K24.....	123	24	80	93	95	36	3.5
	Ill. 1800.....	118	25	77	92	91	37	.6
	Average.....	131	26	78	95	96	38	2.1
	Significant difference.....	12	..	..	6	12	3	...

**Table 4. — DOUBLE CROSSES OF ILLINOIS 21 MATURITY**  
**Tested in North-Central Illinois, 1950-1954**

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
<b>A — Five-year averages, 1950-1954</b>							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
1	<b>Ill. 1555A</b> .....	91	17	84	94	97	38
2	<b>Ill. 1560A</b> .....	90	18	81	97	98	37
3	<b>Ill. 1290</b> .....	90	19	82	93	96	39
4	<b>Ill. 1277</b> .....	90	20	82	93	98	39
5	<b>Ill. 1575</b> .....	90	21	80	96	99	40
6	<b>Ill. 1280</b> .....	89	19	82	91	97	37
	Average.....	90	19	82	94	98	38
<b>B — Four-year averages, 1951-1954</b>							
1	<b>Ill. 1511</b> .....	104	20	83	92	89	48
2	<b>Ill. 972A-1</b> .....	104	20	82	91	95	45
3	<b>Ill. 1617</b> .....	103	20	79	91	96	44
4	<b>Ill. 1332</b> .....	101	19	82	91	97	46
5	<b>Ill. 1570</b> .....	101	21	79	88	99	48
6	<b>Ill. 274-1</b> .....	100	19	81	94	97	46
7	<b>Ill. 1575</b> .....	99	20	80	95	99	41
8	<b>Ill. 1555A</b> .....	97	17	84	93	98	40
9	<b>Ill. 1277</b> .....	96	20	83	93	97	40
10	<b>AES 805</b> .....	96	21	78	96	93	43
11	<b>Ill. 1760</b> .....	96	22	78	94	95	44
12	<b>Ill. 1280</b> .....	95	18	83	90	97	38
13	<b>Ill. 1290</b> .....	94	18	82	92	94	39
14	<b>Ill. 1560A</b> .....	94	18	81	96	98	38
15	<b>AES 702</b> .....	92	20	78	91	97	42
16	<b>Iowa 4297</b> .....	87	19	82	94	91	40
	Average.....	97	20	81	93	96	43
<b>C — Three-year averages, 1952-1954</b>							
1	<b>Ill. 1819</b> .....	106	18	81	89	98	45
2	<b>AES 806</b> .....	105	22	80	89	97	44
3	<b>Ill. 1511</b> .....	104	19	83	91	86	50
4	<b>Ill. 972A-1</b> .....	104	21	81	90	95	49
5	<b>Ill. 1332</b> .....	102	19	82	90	96	48
6	<b>Ill. 1570</b> .....	102	20	79	86	98	50
7	<b>Ill. 274-1</b> .....	101	19	82	93	97	47
8	<b>Ill. 1617</b> .....	101	19	79	89	92	45
9	<b>Ill. 1814</b> .....	100	21	81	94	96	40
10	<b>Ill. 1575</b> .....	99	19	80	94	98	42
11	<b>Ill. 1831</b> .....	99	20	81	94	96	41
12	<b>Ill. 1555A</b> .....	98	16	85	93	97	42
13	<b>Ill. 1277</b> .....	97	19	83	92	97	42
14	<b>Ill. 1560A</b> .....	95	17	82	96	97	40
15	<b>Ill. 1826</b> .....	95	20	81	92	98	39
16	<b>Ill. 1760</b> .....	95	21	78	92	94	44
17	<b>Ill. 1813</b> .....	94	23	79	95	94	45
18	<b>Ill. 1280</b> .....	93	18	82	87	96	39
19	<b>AES 805</b> .....	93	21	78	95	91	44
20	<b>Ill. 1290</b> .....	92	18	83	89	94	41
21	<b>Ind. 1405</b> .....	91	19	80	95	92	38
22	<b>AES 702</b> .....	89	20	78	89	97	43
23	<b>Iowa 4297</b> .....	85	18	82	92	90	41
	Average.....	97	19	81	92	95	43

(Table is continued on next page)

Table 4. — Continued

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
D — Two-year averages, 1953-1954								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
1	AES 806.....	100	21	80	86	96	42	...
2	Ill. 1819.....	98	18	82	84	96	41	...
3	Ill. 1570.....	95	19	80	81	97	46	...
4	Ill. 1332.....	94	18	83	89	94	45	...
5	Ill. 1875.....	94	19	80	92	92	47	...
6	Ill. 972A-1.....	94	20	81	86	92	46	...
7	Ill. 274-1.....	93	18	82	91	96	43	...
8	Ill. 1511.....	92	18	84	89	78	46	...
9	Ill. 1617.....	92	18	80	88	96	44	...
10	Ill. 1831.....	92	20	82	94	94	38	...
11	Ill. 1896A.....	91	18	80	88	98	40	...
12	Ill. 1555A.....	90	16	84	90	96	40	...
13	Ill. 1575.....	90	18	81	91	98	39	...
14	Ill. 1814.....	90	19	82	92	97	38	...
15	Ill. 1868.....	90	19	81	94	94	40	...
16	Ill. 1277.....	89	18	84	88	96	38	...
17	Ill. 2247W.....	88	18	81	80	95	42	...
18	Ill. 1560A.....	87	16	82	94	96	36	...
19	Ill. 1813.....	87	22	79	92	96	42	...
20	Ill. 1826.....	86	19	82	90	98	36	...
21	Ill. 1760.....	86	20	78	89	91	42	...
22	Ill. 1280.....	84	16	82	82	95	35	...
23	Ill. 1290.....	84	17	82	88	91	38	...
24	Ind. 1405.....	84	18	82	93	93	35	...
25	Ill. 1864.....	83	16	82	93	94	36	...
26	Ill. 1863.....	82	18	82	94	95	36	...
27	Ill. 1873.....	82	18	80	94	94	36	...
28	AES 702.....	82	18	80	86	96	40	...
29	AES 805.....	82	20	78	93	87	42	...
30	Iowa 4297.....	74	18	82	92	86	38	...
	Average.....	88	18	81	89	94	40	...

E — 1954 results (4 replications)

1	AES 806.....	107	23	80	88	100	40	1.5
2	Ill. 972A-1.....	107	22	80	85	99	46	3.3
3	Ill. 1912.....	107	21	81	79	97	42	3.6
4	Ill. 1819.....	107	22	80	79	99	43	7.2
5	Ill. 1511.....	106	21	82	85	98	47	15.5
6	Ill. 1332.....	105	20	82	86	100	43	3.9
7	Ill. 1570.....	105	22	80	77	98	45	1.3
8	Ill. 1919.....	104	20	80	86	99	44	3.7
9	Ill. 1617.....	104	20	79	84	100	43	.6
10	Ill. 1905.....	104	21	77	83	99	46	3.8
11	Ill. 274-1.....	103	20	82	86	99	44	.7
12	Ill. 1918.....	103	22	81	81	98	44	3.8
13	Ill. 1875.....	103	21	80	92	100	47	9.2
14	Ill. 1906.....	102	21	79	77	100	45	4.4
15	Ill. 1913.....	101	20	83	74	98	44	3.3
16	Ill. 1908.....	100	20	82	75	99	44	2.7
17	Ill. 1915.....	99	22	80	85	99	42	5.6
18	Ill. 1910.....	98	20	83	73	99	44	2.8
19	Ill. 1904.....	98	21	79	60	98	46	2.7
20	Ill. 1914.....	98	21	79	85	99	45	4.0

(Table is concluded on next page)

Table 4. — Concluded

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
<b>E — 1954 results (4 replications)</b>								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
21	Ill. 6021.....	98	23	78	63	100	51	5.0
22	Ill. 1916.....	97	20	82	68	99	46	3.9
23	Ill. 1555A.....	97	19	82	89	98	42	3.8
24	Ill. 1917.....	97	19	82	77	96	43	.7
25	Ill. 1896A.....	96	20	80	84	97	39	4.6
26	Ill. 1814.....	96	22	80	85	100	39	3.2
27	Ill. 1575.....	95	22	79	92	99	42	3.8
28	Ill. 1277.....	94	20	83	85	97	41	.7
29	Ill. 2247W.....	93	20	80	77	99	42	3.4
30	Ill. 1868.....	93	22	80	93	99	42	4.7
31	Ill. 1911.....	93	20	80	80	98	46	7.1
32	Ohio 3247.....	92	20	83	79	100	35	3.8
33	Ill. 1290.....	92	20	81	79	98	40	1.9
34	Ill. 1831.....	92	24	81	91	99	38	4.3
35	Ind. 1405.....	92	20	81	88	97	37	4.6
36	Ill. 1760.....	91	23	77	87	99	41	5.1
37	Ill. 1560A.....	89	19	79	91	100	39	1.2
38	Ill. 1909.....	88	20	80	76	95	43	5.2
39	Ill. 1280.....	88	19	80	78	99	34	6.0
40	Ill. 1826.....	88	21	80	89	99	36	2.0
41	Ill. 1813.....	87	24	77	90	99	42	2.0
42	Ind. 2401.....	86	21	80	89	99	37	4.2
43	Ill. 1903.....	86	20	80	91	97	39	2.7
44	Ill. 1864.....	85	19	81	88	100	35	2.6
45	AES 702.....	84	21	79	88	98	40	2.0
46	Ill. 1863.....	81	22	80	91	99	37	3.8
47	AES 805.....	79	22	75	92	96	41	3.6
48	Ill. 1873.....	77	22	77	93	100	36	4.9
49	Iowa 4297.....	73	21	80	86	97	38	7.1
	Average.....	95	21	80	83	99	42	3.9
	Significant difference.....	8	..	..	12	3	4	...

Table 5. — THREE-WAY AND DOUBLE CROSSES  
OF ILLINOIS 21 MATURITY

Tested in North-Central Illinois, 1954

(Entries in boldface were average or better in yield and standability  
and average or earlier in maturity)

Code	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears
<b>A — Inbred lines crossed with (B14 × WF9)</b>								
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>
1	<b>B38</b> .....	96	19	76	98	97	41	3.5
2	C103.....	76	22	73	97	99	42	9.3
3	Oh26A.....	78	19	81	97	98	39	2.8
4	M14.....	99	21	81	92	94	37	3.4
5	Oh422.....	97	21	77	96	92	40	4.6
6	<b>Oh28</b> .....	106	19	79	96	99	38	.7
7	Nebr. 9206.....	102	19	82	80	99	40	4.5
8	Oh5.....	82	19	75	97	100	40	6.2
9	W70.....	86	19	82	97	99	41	3.8
10	Oh43.....	113	20	82	93	99	38	2.4
11	<b>Nebr. 4535</b> .....	118	20	83	94	99	39	3.9
12	K1603.....	110	18	81	90	96	41	1.2
13	A73.....	73	18	82	97	99	35	0
14	<b>B37</b> .....	102	19	78	97	99	41	3.2
15	N18.....	100	20	81	82	97	38	3.2
	Average.....	96	20	80	94	98	39	3.5
<b>B — Inbred lines crossed with (Oh28 × Oh43)</b>								
16	<b>B38</b> .....	119	19	79	93	92	42	2.6
17	C103.....	72	23	71	95	99	39	2.1
18	Oh26A.....	95	19	82	91	98	39	2.7
19	<b>WF9</b> .....	106	20	81	92	96	34	1.2
20	M14.....	98	18	82	83	99	34	.6
21	Nebr. 9206.....	99	20	83	58	96	38	1.4
22	Oh5.....	96	19	82	77	97	40	4.7
23	W70.....	108	21	82	81	99	40	1.3
24	Nebr. 4535.....	112	21	85	75	99	38	3.4
25	K1603.....	109	18	83	75	99	39	2.9
26	A73.....	80	19	80	91	99	36	4.6
27	<b>B37</b> .....	129	23	82	98	100	39	.6
28	N18.....	91	22	79	68	98	36	2.6
29	Nebr. 4056.....	97	19	82	95	97	36	.7
	Average.....	101	20	81	84	98	38	2.2
<b>C — Double crosses</b>								
	(Oh28×Oh43)(B14×WF9)....	108	21	80	94	99	39	3.8
	AES 702.....	90	20	77	96	98	40	5.9
	Iowa 4297.....	87	21	80	92	98	40	1.9
	Average.....	95	21	79	94	98	40	3.9
	Significant difference.....	11	..	..	9	4	3	...

**Table 6. — DOUBLE CROSSES OF U. S. 13 MATURITY  
Tested in Central Illinois, 1950-1954**

(Entries in **boldface** were average or better in yield and standability  
and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
<b>A — Five-year averages, 1950-1954</b>							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
1	Ill. 1511.....	98	18	82	86	96	48
2	Ill. 1332.....	94	17	81	89	98	46
3	Ill. 972A-1.....	94	17	80	83	97	47
4	U.S. 13.....	93	18	80	78	98	52
5	Ill. 1570.....	93	18	80	78	97	47
6	Ill. 21.....	91	17	82	83	97	47
7	Ill. 274-1.....	90	16	82	87	98	45
	Average.....	93	17	81	83	97	47
<b>B — Four-year averages, 1951-1954</b>							
1	Ill. 1511.....	95	17	82	85	99	47
2	Ill. 1421.....	94	17	82	85	99	44
3	Ill. 1332.....	92	16	82	88	98	46
4	Ill. 972A-1.....	91	16	80	82	99	47
5	Ill. 1777.....	91	17	80	83	98	46
6	U.S. 13.....	90	17	80	77	98	51
7	Ill. 1759.....	90	18	80	81	98	46
8	Ill. 1788.....	90	18	79	80	100	47
9	Ill. 1764.....	88	17	79	82	99	47
10	Ill. 1570.....	88	18	80	77	99	47
11	Ill. 274-1.....	86	16	82	84	100	45
12	AES 805.....	86	17	80	90	97	43
13	Ill. 1767.....	84	18	81	77	100	45
	Average.....	90	17	80	82	99	46
<b>C — Three-year averages, 1952-1954</b>							
1	Ill. 1511.....	94	17	83	87	99	47
2	Ill. 1421.....	94	17	82	85	99	43
3	Ill. 1332.....	91	15	82	91	98	45
4	Ill. 1777.....	91	17	80	89	99	45
5	AES 801.....	90	16	79	94	96	39
6	Ill. 1570.....	90	17	80	84	99	47
7	Ill. 972A-1.....	89	16	79	83	98	47
8	U.S. 13.....	88	16	81	83	98	50
9	Ill. 1788.....	88	17	78	80	99	48
10	Mo. 4041W.....	88	18	77	80	99	49
11	AES 802.....	87	16	80	90	88	43
12	Ill. 1759.....	87	17	78	83	98	45
13	Ill. 274-1.....	86	15	82	90	99	44
14	Ill. 21.....	86	16	82	89	98	46
15	Ohio 4808.....	86	17	80	92	98	40
16	Ill. 1764.....	83	16	79	87	98	46
17	Ill. 1767.....	82	17	80	86	99	45
18	AES 803.....	81	16	79	90	97	40
19	AES 805.....	79	17	80	92	95	42
	Average.....	87	16	80	87	98	45

(Table is continued on next page)



Table 6. — Continued

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
D — Two-year averages, 1953-1954							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
1	Ill. 1896.....	92	16	82	82	98	42
2	Ill. 1511.....	90	17	83	84	98	47
3	Ill. 1421.....	88	17	82	78	98	42
4	Ill. 1332.....	87	15	82	88	98	46
5	Ill. 1777.....	87	17	81	85	100	45
6	Ill. 1570.....	86	17	81	77	98	47
7	U.S. 13.....	83	16	82	80	98	48
8	Ill. 972A-I.....	82	16	79	76	98	46
9	Mo. 4041W.....	82	17	79	76	98	48
10	AES 802.....	80	16	80	88	88	42
11	AES 801.....	80	16	78	91	95	39
12	Ill. 1788.....	80	17	80	72	98	46
13	Ill. 21.....	78	16	82	86	98	46
14	Ohio 4808.....	78	16	80	89	98	38
15	Ill. 1813.....	78	17	81	90	96	40
16	Ill. 1890.....	76	16	79	90	100	42
17	Ill. 1759.....	76	16	78	76	98	44
18	Ill. 274-1.....	75	16	82	85	100	44
19	Ill. 1767.....	75	16	82	80	99	45
20	Ill. 1764.....	72	16	78	84	97	46
21	AES 803.....	71	16	80	88	96	38
22	Ill. 1880.....	70	15	82	85	95	42
23	Ill. 6075.....	68	16	82	67	96	39
24	AES 895.....	68	17	80	90	94	40
25	Ill. 1884.....	67	16	76	90	96	43
26	Ill. 1877.....	66	16	78	96	98	38
27	Ill. 1876.....	63	16	77	88	96	44
28	Ill. 1889.....	62	18	76	96	98	44
	Average.....	77	16	80	84	97	43

(Table is concluded on next page)

Table 6. — Concluded

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
<b>E — 1954 results (4 replications)</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>	<i>perct.</i>
1	Ill. 1511.....	99	18	84	86	98	42	5.4	9.4
2	Tenn. 3473.....	98	21	83	79	98	40	0	7.0
3	Ill. 1896.....	97	17	83	90	97	38	11.8	3.8
4	Ill. 1913.....	96	18	84	93	95	38	4.0	4.0
5	Ill. 1919.....	94	16	83	90	97	38	1.3	7.7
6	Ill. 1911.....	94	17	82	89	99	40	6.9	2.5
7	Ill. 1777.....	92	18	81	91	100	40	3.8	5.7
8	U.S. 13.....	91	16	82	86	97	42	5.3	5.2
9	AES 806.....	91	19	83	86	99	35	7.6	6.3
10	Ill. 1570.....	91	19	81	85	99	40	10.5	9.4
11	Ill. 1332.....	90	17	83	90	97	40	1.9	5.8
12	Ill. 1918.....	88	17	79	87	100	39	4.7	2.5
13	Mo. 4041W.....	87	19	80	92	100	40	5.6	5.7
14	Ind. 2609.....	87	16	81	83	99	37	4.3	6.3
15	Ill. 1908.....	86	17	84	96	93	39	3.7	.7
16	Ill. 1915.....	86	17	79	89	97	39	2.1	0
17	Ill. 1906.....	85	17	80	78	96	37	8.8	5.8
18	Ill. 1914.....	85	18	80	88	99	40	2.6	2.5
19	Ill. 1421.....	85	18	81	87	99	38	2.0	7.6
20	Ind. 9502.....	85	19	80	96	99	34	.7	3.8
21	Ill. 1909.....	84	17	82	90	97	41	3.3	7.1
22	Ill. 972A-1.....	84	17	76	80	98	40	0	1.3
23	Ill. 1788.....	83	18	79	87	98	38	4.2	5.1
24	Ill. 1916.....	83	17	82	88	96	39	3.5	13.1
25	AES 801.....	83	17	76	94	97	34	1.9	4.5
26	Ill. 6021.....	82	18	80	75	94	45	4.4	4.0
27	Ill. 21.....	81	18	82	96	99	41	9.9	13.3
28	Ill. 1904.....	79	16	78	88	94	39	4.2	8.7
29	Ill. 1917.....	79	17	81	76	97	37	2.6	7.0
30	Ill. 1910.....	77	17	84	90	99	37	4.7	13.3
31	Ill. 1912.....	76	17	80	94	97	37	3.6	9.6
32	AES 802.....	76	17	77	97	80	38	5.3	16.4
33	Ill. 274-1.....	76	17	81	95	100	37	.7	5.0
34	Ill. 1905.....	75	17	76	91	99	38	3.7	6.3
35	Ill. 1759.....	74	18	78	83	97	38	2.9	3.8
36	Ill. 1813.....	73	18	80	91	100	36	4.2	10.6
37	Ill. 1890.....	71	18	78	94	100	38	.6	21.7
38	Ill. 1767.....	71	18	81	87	99	40	4.5	18.9
39	Ill. 6075.....	71	18	82	70	100	35	7.4	5.7
40	Ohio 4808.....	69	18	79	91	98	35	0	10.1
41	Iowa 4615.....	69	17	79	96	97	40	.7	10.8
42	AES 803.....	68	17	78	93	99	36	5.0	20.8
43	Ill. 1764.....	66	16	76	90	95	40	1.5	14.4
44	Ill. 1880.....	63	16	81	86	98	37	5.1	5.7
45	AES 805.....	58	18	79	97	90	35	.6	17.7
46	Ill. 1884.....	54	18	71	93	97	38	7.4	19.2
47	Ill. 1876.....	51	19	73	92	94	37	4.8	28.9
48	Ill. 1877.....	50	19	74	99	98	35	9.7	25.3
49	Ill. 1889.....	46	20	73	99	97	36	2.7	24.0
	Average.....	79	18	80	89	97	38	4.1	9.3
	Significant difference	16	..	..	8	6	3	...	...

Table 7.—SINGLE AND DOUBLE CROSSES  
OF U. S. 13 MATURITY

Tested in Central Illinois, 1954

(Entries in boldface were average or better in yield and standability  
and average or earlier in maturity)

Code	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
A — Single crosses									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>	<i>perct.</i>
1	R71×R98.....	87	18	84	97	100	38	1.4	0
2	R71×R105.....	81	21	80	97	100	37	0	0
3	R71×R113.....	61	17	78	97	100	34	0	0
4	R98×R105.....	98	19	81	97	100	44	0	10.0
5	R98×R113.....	73	17	81	95	94	41	0	6.2
6	R105×R113.....	75	18	77	96	88	40	0	0
7	R71×R130.....	95	16	84	91	100	45	4.7	1.7
8	R98×R130.....	111	17	83	83	99	50	0	4.2
9	R105×R130.....	83	21	79	90	97	46	1.8	.8
10	R113×R130.....	85	16	79	81	100	44	2.6	0
11	R71×R151.....	80	18	82	94	100	39	1.8	0
12	R98×R151.....	86	17	84	92	98	43	0	11.9
13	R105×R151.....	92	22	80	94	100	43	5.6	2.5
14	R113×R151.....	77	16	82	92	99	43	5.0	0
15	R130×R151.....	92	17	85	86	99	46	0	.8
16	R71×R153.....	91	17	83	99	100	37	.5	0
17	R98×R153.....	94	20	82	90	99	43	0	2.5
18	R105×R153.....	99	20	80	100	99	39	.8	0
19	R113×R153.....	81	17	80	96	100	37	0	0
20	R130×R153.....	101	18	82	80	100	45	.8	1.7
21	R151×R153.....	97	18	81	79	99	43	1.5	.8
22	R71×R154.....	81	17	84	94	100	37	1.6	0
23	R98×R154.....	95	16	86	72	96	46	0	1.7
24	R105×R154.....	101	18	85	93	99	42	.9	0
25	R113×R154.....	84	15	84	76	98	38	0	0
26	R130×R154.....	111	15	86	77	100	49	1.7	0
27	R151×R154.....	99	16	87	91	99	43	2.8	1.7
28	R153×R154.....	96	17	88	78	98	42	0	.8
29	R71×R155.....	85	17	83	95	100	40	0	0
30	R98×R155.....	90	16	83	73	100	45	0	.8
31	R105×R155.....	92	20	82	93	99	42	0	0
32	R113×R155.....	72	16	81	97	98	40	0	.8
33	R130×R155.....	105	16	84	88	100	46	2.5	0
34	R151×R155.....	88	18	83	91	100	45	2.5	0
35	R153×R155.....	87	19	81	79	100	44	0	0
36	R154×R155.....	80	16	85	75	99	43	.9	0
37	R71×R156.....	90	19	85	98	99	37	.8	.8
38	R98×R156.....	81	17	78	90	100	43	0	14.2
39	R105×R156.....	75	22	78	100	100	38	0	3.3
40	R113×R156.....	73	17	77	93	97	35	0	5.1
41	R130×R156.....	91	18	81	98	99	45	1.0	.8
42	R151×R156.....	90	18	85	89	100	39	0	6.7
43	R153×R156.....	75	20	79	97	99	36	.8	3.4
44	R154×R156.....	92	17	83	83	100	42	1.7	.8
45	R155×R156.....	80	17	84	76	100	40	1.7	2.5
	Average.....	88	18	82	89	99	42	1.0	1.9
B — Double crosses									
Ill. 6021.....	90	16	81	87	99	48	8.9	8.4	
U.S. 13.....	87	17	82	91	99	42	4.0	12.6	
Ill. 6016.....	84	16	84	74	99	44	3.6	17.6	
AES 805.....	74	16	77	94	100	38	5.6	20.0	
Average.....	84	16	81	86	99	43	5.5	14.6	
Significant difference	9	..	..	10	2	3	...	...	

**Table 8.—THREE-WAY AND DOUBLE CROSSES  
OF U. S. 13 MATURITY**

**Tested in Central Illinois, 1954**

(Entries in **boldface** were average or better in yield and standability  
and average or earlier in maturity)

Code	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
<b>Inbred lines crossed with (WF9 × Hy)</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>	<i>perct.</i>
1	R95.....	108	17	82	71	96	40	2.0	2.6
2	R96.....	99	15	80	84	98	43	9.5	8.9
3	R98.....	77	17	82	82	98	39	2.1	24.8
4	R101.....	82	17	80	99	99	39	2.0	5.1
5	N5.....	85	18	77	76	98	40	3.5	7.0
6	N12.....	76	18	80	95	94	38	.7	12.0
7	N13.....	99	18	83	89	99	41	4.5	19.6
8	K1605.....	89	18	79	80	98	38	0	17.2
9	B36.....	74	18	76	92	99	41	16.9	27.0
10	Oh451.....	110	19	82	83	99	41	2.6	5.7
11	<b>38-11.....</b>	98	18	82	90	97	41	11.5	14.2
12	L317.....	98	18	82	76	99	45	5.5	2.5
	Average.....	91	18	80	85	98	40	5.1	12.2
<b>Inbred lines crossed with (WF9 × 38-11)</b>									
13	<b>R95.....</b>	96	17	82	91	94	40	6.4	10.7
14	R96.....	92	17	82	86	95	41	9.9	11.8
15	R98.....	79	18	81	92	94	41	2.6	39.3
16	R101.....	77	17	82	98	96	36	1.3	12.4
17	N5.....	88	18	78	76	98	39	.7	9.0
18	N12.....	78	17	81	95	98	40	.7	28.2
19	N13.....	73	18	80	94	98	40	4.9	49.7
20	K1605.....	91	18	82	88	96	38	.7	29.4
21	L317.....	101	17	82	89	94	46	10.9	15.2
22	Hy.....	79	18	83	87	79	40	7.9	10.2
	Average.....	85	18	81	90	94	40	4.6	21.6
<b>Double crosses</b>									
	AES 805.....	98	17	81	90	98	46	7.0	4.5
	U.S. 13.....	60	18	76	95	97	38	3.7	31.6
	Average.....	79	18	78	92	98	42	5.4	18.0
	Significant difference	19	..	..	10	6	4	...	...

Table 9.—UNIFORM TEST OF BLIGHT-RESISTANT THREE-WAY CROSSES AND STANDARDS OF U. S. 13 MATURITY

Tested in Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Code	Entry	Acre yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
<b>A — Inbred lines crossed on (WF9 × 38-11)</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>perct.</i>	<i>perct.</i>
1	Hy.....	87	16	83	92	95	42	11.7	13.0
2	<b>CL42A</b> .....	103	17	85	88	96	45	9.8	7.3
3	<b>CL42B</b> .....	104	16	85	71	90	47	8.6	4.3
4	<b>CL42C</b> .....	92	16	82	83	94	42	5.8	22.5
5	Hy( <b>Mo.21A</b> )B× 1-S6 AJU 13700....	102	17	84	98	96	45	7.5	4.1
6	Hy( <b>Mo.21A</b> )B× 2-S4 AJU 13706....	111	16	84	87	97	46	6.7	5.6
7	Hy( <b>Mo.21A</b> )B× 2-S4 AJU 13711....	97	17	85	91	86	44	6.9	10.0
8	L317.....	103	16	83	83	96	48	15.7	8.1
9	CL317A.....	102	18	78	90	88	49	7.3	14.3
10	CL317B.....	110	18	80	94	98	50	.8	12.6
11	(L317×L97)-B-#3-S4	96	18	82	92	92	48	3.6	6.7
12	(L317×L97)-B-#3-S6	98	19	80	96	96	47	6.4	6.4
13	(L317×L97)-B-#3-S9	101	18	80	82	97	49	5.5	11.9
14	(L317×L97)-B-#3-S10	105	18	80	89	94	47	10.5	5.0
15	L317( <b>Mo.21A</b> )B× 1-S6 AJU 13676....	98	17	82	84	92	48	5.0	6.8
16	L317( <b>Mo.21A</b> )B× 1-S6 AJU 13683....	103	17	81	86	99	45	15.8	8.6
17	L317( <b>Mo.21A</b> )B× 2-S4 AJU 13688-8..	96	17	82	76	93	45	7.5	1.7
18	L317( <b>Mo.21A</b> )B× 2-S4 AJU 13688-13	94	18	82	89	87	45	9.5	4.5
19	Os 420.....	80	16	81	88	95	35	8.0	12.2
20	(Os420×NC34)-B- #4-S2-1.....	88	16	82	92	100	46	10.8	36.2
21	(Os420×NC34)-B- #4-S9-(x).....	97	17	82	94	98	43	22.3	11.8
22	(Os420×NC34)-B- #4-S12-(x).....	82	17	83	98	96	39	17.9	12.8
	Average.....	98	17	82	88	94	45	9.3	10.3
<b>B — Inbred lines crossed on (Hy × L317)</b>									
23	<b>WF9</b> .....	110	17	85	84	99	46	8.3	4.6
24	<b>CL29A</b> .....	103	17	84	71	97	45	8.9	7.9
25	<b>CL29B</b> .....	113	16	82	84	100	50	5.8	0
26	<b>CL29C</b> .....	109	16	82	86	98	49	14.2	3.1
27	(WF9×NC34)-B- #3-S8-3-1.....	101	18	80	75	99	46	3.0	3.1
28	(WF9×NC34)-B- #3-S10-1-1.....	105	18	81	79	92	48	1.7	0
29	38-11.....	97	17	82	88	98	48	9.5	9.4
30	CL38A.....	103	18	82	83	99	49	21.0	8.5
31	CL38B.....	111	18	81	87	99	53	11.7	9.4
32	(38-11×NC34)-B- #3-S2-1-2-(x).....	99	19	79	78	97	52	8.3	14.4

(Table is concluded on next page)

Table 9. — Concluded

Code	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Dropped ears	Smutted plants
<b>B — Inbred lines crossed on (Hy × L317) (concluded)</b>									
33	(38-11×NC34)-B- #3-S4-2-1.....	102	18	83	83	98	50	6.7	3.1
34	(38-11×NC34)-B- #3-S7-1-1.....	101	18	79	75	99	50	10.8	4.6
35	38-11(Mo.21A)B× 1-S6 AJU 13734....	103	17	83	89	99	48	8.3	10.1
36	38-11(Mo.21A)B× 1-S2-#3-S1 AJU 13755.....	118	17	84	91	96	49	7.0	3.2
	Average.....	105	17	82	82	98	49	8.9	5.8
<b>C — Standards</b>									
	Hy×L317.....	119	18	83	72	94	51	3.3	.8
	WF9×38-11.....	99	17	84	97	98	38	25.0	43.8
	U.S. 13.....	90	17	82	92	95	44	10.0	10.6
	AES 805.....	79	17	81	99	99	38	4.3	24.0
	Average.....	97	17	82	90	96	43	10.6	19.8
	Significant difference	12	..	..	11	9	4	...	...

Table 10. — DOUBLE CROSSES OF ILLINOIS 448 MATURITY  
Tested in South-Central Illinois, 1950-1954

(Entries in boldface were average or better in yield and standability  
and average or earlier in maturity)

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height
<b>A — Five-year averages, 1950-1954</b>							
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>
1	Ill. 1657.....	80	21	80	74	99	46
2	Ill. <b>1539A</b> .....	77	19	79	85	99	45
3	U.S. 13.....	76	17	81	73	99	44
4	Ill. <b>1349</b> .....	76	18	81	83	98	46
5	Ill. <b>1332</b> .....	75	17	82	85	98	40
6	Ill. 2214W.....	75	20	79	78	98	45
7	Ill. 2235W.....	75	21	79	89	99	45
8	Ill. 1570.....	74	17	80	80	99	39
9	Ill. 200.....	71	18	80	73	99	45
10	Mo. 804.....	70	19	77	78	93	49
	Average.....	75	19	80	80	98	44
<b>B — Four-year averages, 1951-1954</b>							
1	Ill. 1657.....	72	20	80	74	99	45
2	Mo. 862.....	72	22	76	80	100	45
3	Ill. <b>1332</b> .....	70	16	83	86	99	38
4	Ill. 1570.....	70	16	80	80	100	38
5	U.S. 13.....	69	16	82	75	99	41
6	Ill. <b>1656</b> .....	69	17	82	83	99	38
7	Ill. <b>1349</b> .....	69	18	81	88	99	44
8	Ill. <b>1539A</b> .....	69	18	79	85	100	44
9	Ill. 1771.....	68	19	78	91	98	44
10	Ill. 2235W.....	68	21	78	88	99	44
11	Ill. 1788.....	67	16	79	78	99	40
12	Ill. 2214W.....	67	18	78	79	99	43
13	Ill. 200.....	63	18	79	73	99	42
14	Mo. 804.....	62	18	76	79	98	48
	Average.....	68	18	79	81	99	42
<b>C — Three-year averages, 1952-1954</b>							
1	U.S. 13.....	62	14	82	77	99	42
2	Ill. 1570.....	62	15	80	78	100	38
3	Ill. <b>1656</b> .....	62	16	82	83	100	39
4	Ill. 1859.....	62	16	80	79	100	42
5	Ill. 1851.....	62	17	79	80	100	45
6	Ill. 1857.....	61	19	77	84	99	44
7	Ill. 1511.....	60	14	83	74	98	40
8	Ill. <b>1332</b> .....	60	16	82	82	99	39
9	Ill. 1856.....	60	19	79	77	100	42
10	Mo. 862.....	59	20	75	79	99	45
11	Ill. 1788.....	58	16	78	75	99	41
12	Ill. <b>1349</b> .....	58	17	81	88	99	45
13	AES 805.....	57	16	80	88	99	38
14	Ill. 1657.....	57	20	79	69	98	43
15	Ill. 1852.....	56	17	75	80	100	43
16	Ill. 1539A.....	56	18	78	86	100	43
17	Ill. 1849.....	56	19	75	90	99	41
18	Ill. 1771.....	55	19	76	89	97	42
19	Ill. 2235W.....	55	21	77	88	99	44
20	Ill. 200.....	54	16	77	71	99	44
21	Ill. 1850.....	54	19	75	87	99	42
22	Mo. 804.....	50	17	75	79	99	48
23	Ill. 2214W.....	48	17	76	75	99	41
	Average.....	58	17	78	81	99	42

(Table is continued on next page)

Table 10. — Continued

Rank in yield	Entry	Acre yield	Mois- ture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing <sup>a</sup>	Dropped ears
<b>D — Two-year averages, 1953-1954</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>grade</i>	<i>perct.</i>
1	Ill. 1897.....	52	14	80	74	100	38	...	...
2	Ill. 1570.....	52	14	79	71	100	38	...	...
3	Ill. 1859.....	51	14	80	76	100	41	...	...
4	Ill. 1896.....	50	14	84	75	98	37	...	...
5	Ill. 2246W.....	50	14	80	82	100	38	...	...
6	Ill. 1332.....	50	16	82	80	99	37	...	...
7	U.S. 13.....	49	14	81	70	100	41	...	...
8	Ill. 1656.....	49	16	80	79	100	39	...	...
9	Ill. 1511.....	48	14	83	73	97	38	...	...
10	Ill. 6076.....	48	14	82	60	99	38	...	...
11	Ill. 1851.....	48	16	80	75	100	43	...	...
12	Ill. 1788.....	48	16	78	72	98	40	...	...
13	Ill. 1857.....	48	18	78	80	98	42	...	...
14	AES 805.....	46	14	80	86	99	36	...	...
15	Ill. 1349.....	44	16	78	86	100	43	...	...
16	Ill. 1893.....	44	16	76	86	98	40	...	...
17	Ill. 1856.....	44	18	79	76	99	40	...	...
18	Mo. 862.....	44	18	74	76	100	42	...	...
19	Ill. 6075.....	43	14	80	62	100	36	...	...
20	Ill. 200.....	42	16	76	70	99	42	...	...
21	Ill. 1852.....	42	17	74	78	100	42	...	...
22	Ill. 1539A.....	41	16	78	80	100	40	...	...
23	Ill. 1657.....	41	19	78	64	98	41	...	...
24	Ill. 6102.....	40	16	73	60	100	38	...	...
25	Ill. 1849.....	40	18	74	90	98	40	...	...
26	Ill. 1771.....	40	18	74	87	96	40	...	...
27	Ill. 2235W.....	38	20	76	88	99	41	...	...
28	Ill. 1850.....	36	18	74	86	98	40	...	...
29	Mo. 804.....	35	17	74	76	98	46	...	...
30	Ill. 6079.....	34	16	78	58	98	38	...	...
31	Ill. 2214W.....	31	16	74	67	100	39	...	...
	Average.....	44	16	78	76	99	40	...	...
<b>E — 1954 results (4 replications)</b>									
1	Ill. 1851.....	53	15	80	52	100	32	1.5	0
2	Ill. 1857.....	51	17	80	69	99	32	1.2	4.2
3	Ill. 1788.....	49	15	79	54	100	29	2.2	.8
4	Ill. 1656.....	49	16	80	60	100	28	1.0	1.7
5	Ill. 1332.....	49	15	82	63	100	28	1.5	.8
6	Ill. 1859.....	49	15	79	56	100	31	2.2	0
7	Ill. 1570.....	49	14	79	46	100	27	1.5	1.8
8	Ill. 1657.....	49	18	82	36	99	32	1.2	0
9	Mo. 862.....	48	17	76	63	100	34	1.0	0
10	Ill. 1539A.....	47	16	79	67	100	29	1.5	.9
11	Ill. 1856.....	47	16	82	59	98	31	1.8	2.5
12	Mo. 8010W.....	47	18	77	54	100	32	1.0	.7
13	Ill. 1852.....	47	16	77	61	100	32	1.8	0
14	Ill. 1909.....	47	15	81	50	100	29	2.0	2.6
15	Ill. 2246W.....	47	15	79	65	99	29	3.0	4.2
16	Ill. 1349.....	47	16	78	81	99	34	1.0	1.0
17	Ill. 1893.....	47	15	75	72	100	31	1.5	.9
18	Mo. 804.....	46	16	77	58	100	35	1.0	1.7
19	Ill. 1771.....	46	16	80	76	92	30	1.5	0
20	AES 805.....	46	15	79	73	98	27	2.0	0

<sup>a</sup> Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

(Table is concluded on next page)



Table 10. — Concluded

Rank in yield	Entry	Aere yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing <sup>a</sup>	Dropped ears
<b>E — 1954 results (concluded)</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>grade.</i>	<i>perct.</i>
21	Ill. 1918.....	46	15	80	52	100	29	2.8	1.6
22	Ill. 1914.....	46	16	80	66	100	28	2.8	.8
23	U.S. 13.....	46	15	79	47	100	30	2.0	1.6
24	Tenn. 3744.....	45	16	74	28	100	26	1.5	2.5
25	Ill. 1896.....	45	16	81	59	98	27	3.2	1.9
26	Ill. 1904.....	45	15	77	47	100	27	2.2	0
27	Ill. 1897.....	45	15	77	50	100	27	3.0	.8
28	Ill. 2235W.....	45	19	76	75	100	31	2.5	3.6
29	Ill. 200.....	45	16	78	44	100	31	2.0	0
30	Ill. 1919.....	44	14	77	63	100	27	2.8	.8
31	Ill. 1849.....	44	17	80	82	99	31	2.0	5.6
32	Ill. 1850.....	44	16	79	74	100	31	2.0	.9
33	Ill. 6076.....	44	14	79	35	98	28	2.2	2.5
34	Ill. 1916.....	44	14	80	57	99	28	2.5	1.8
35	Ill. 1911.....	44	17	78	57	100	31	1.8	0
36	Ill. 1912.....	43	14	80	58	99	25	3.8	.9
37	Ill. 1511.....	43	14	81	51	100	29	2.2	2.6
38	Ill. 1910.....	43	16	83	50	99	26	4.0	0
39	Ill. 1905.....	43	14	76	54	100	28	2.5	1.6
40	Ill. 1906.....	42	15	78	44	100	26	2.2	3.2
41	AES 903W.....	42	16	74	66	100	27	2.2	2.5
42	Ill. 1913.....	42	14	81	42	100	25	4.0	2.5
43	Ill. 1908.....	40	15	79	53	100	27	4.0	1.7
44	Ill. 1917.....	39	16	78	50	99	28	4.0	4.0
45	Ill. 1915.....	39	15	78	56	100	27	3.8	.8
46	Ill. 6102.....	39	15	75	29	100	29	2.5	4.5
47	Ill. 6075.....	39	15	78	29	100	26	3.5	1.7
48	Ill. 6079.....	33	16	78	38	99	27	2.0	.8
49	Ill. 2214W.....	30	14	73	36	100	28	3.0	1.7
	Average.....	45	16	79	55	99	29	2.3	1.6
	Significant difference	6	..	..	18	2	3	1.1	...

<sup>a</sup> Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

Table 11. — THREE-WAY AND DOUBLE CROSSES OF ILLINOIS 448 MATURITY

Tested in South-Central Illinois, 1954

(Entries in boldface were average or better in yield and standability and average or earlier in maturity)

Code	Entry	Aere yield	Moisture in grain	Shelling	Erect plants	Stand	Ear height	Leaf firing <sup>a</sup>	Dropped ears
<b>A — Three-way crosses</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>grade</i>	<i>perct.</i>
1	(K201×38-11)×B1A.....	38	18	81	57	100	32	2.0	1.7
10	(K201×38-11)×B18.....	43	17	82	65	100	33	1.2	1.8
11	(K201×38-11)×Kys.....	39	19	77	42	100	37	1.0	.8
14	(K201×38-11)×K4.....	46	18	80	47	98	35	1.0	0
18	(K201×38-11)×Ky36-11.....	48	19	81	72	100	35	2.2	1.7
26	(K201×38-11)×Ky106.....	47	16	80	65	100	35	1.0	0
50	(K201×38-11)×Ky118.....	46	19	78	67	99	34	1.0	.9
21	(K201×38-11)×Ky120.....	42	19	79	78	100	33	1.2	2.6
19	(K201×38-11)×Ky126.....	53	19	84	80	99	36	2.0	.8
28	(K201×38-11)×N5.....	36	18	82	39	100	34	1.0	0

<sup>a</sup> Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

(Table is concluded on next page)

Table 11. — Concluded

Code	Entry	Acre yield	Mois- ture in grain	Shell- ing	Erect plants	Stand	Ear height	Leaf firing <sup>a</sup>	Dropped ears
<b>A — Three-way crosses (concluded)</b>									
		<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>in.</i>	<i>grade</i>	<i>perct.</i>
29	(K201×38-11)×N9.....	48	16	80	62	100	33	1.5	0
30	(K201×38-11)×N10.....	37	16	82	83	100	28	2.0	0
31	(K201×38-11)×N15.....	47	22	83	49	99	29	1.2	1.7
55	(K201×38-11)×Oh7B.....	42	17	84	89	100	33	2.0	0
12	(K201×38-11)×Oh401.....	37	14	80	65	99	30	2.5	.9
13	(K201×38-11)×Oh443.....	38	16	80	57	100	36	1.8	0
5	(K201×38-11)×Ok11.....	48	18	82	76	100	30	1.5	1.7
9	(K201×38-11)×Ok12.....	36	17	78	40	100	34	2.8	.8
6	(K201×38-11)×Ok15.....	46	18	80	34	99	34	2.5	10.8
7	(K201×38-11)×Ok19.....	40	18	79	80	99	33	2.2	.9
8	(K201×38-11)×Ok22.....	39	17	79	70	99	32	2.2	.9
2	(K201×38-11)×Cl.7.....	44	20	83	72	100	36	1.0	1.9
3	(K201×38-11)×Cl.7A.....	38	18	79	56	99	32	1.5	0
15	(K201×38-11)×Cl.21E.....	49	17	80	81	100	33	1.0	0
4	(K201×38-11)×Cl.31.....	46	17	84	39	100	34	1.2	0
34	(K201×38-11)×Kans. 52:1326..	49	16	82	64	100	32	2.8	2.5
35	(K201×38-11)×Kans. 52:1349..	44	17	84	58	100	29	1.8	0
36	(K201×38-11)×Kans. 52:1351..	41	17	82	62	100	30	2.0	.9
37	(K201×38-11)×Kans. 52:1357..	49	17	85	42	100	28	3.5	2.5
38	(K201×38-11)×Kans. 52:1363..	46	19	81	72	99	26	3.8	1.7
39	(K201×38-11)×Kans. 52:1367..	43	16	82	68	100	32	2.2	0
40	(K201×38-11)×Kans. 52:1385..	37	18	75	72	100	33	1.0	0
41	(K201×38-11)×Kans. 52:1391..	41	16	80	60	99	32	2.2	0
42	(K201×38-11)×Kans. 52:1394..	43	16	78	66	99	32	2.8	1.7
43	(K201×38-11)×Kans. 52:1409..	44	20	82	60	100	35	1.0	0
44	(K201×38-11)×Kans. 52:1411..	43	18	79	82	100	31	1.5	.8
45	(K201×38-11)×Kans. 52:1412..	49	18	82	36	100	36	1.8	0
46	(K201×38-11)×Kans. 52:1421..	45	23	80	25	98	36	1.0	.9
47	(K201×38-11)×Kans. 52:1430..	44	17	82	62	100	32	3.5	.9
48	(K201×38-11)×Kans. 52:1493..	45	16	80	85	99	31	1.5	2.8
49	(K201×38-11)×Kans. 50:1109..	45	18	82	96	97	32	2.5	.8
22	(K201×38-11)×Ky52:130.....	44	15	83	97	100	30	4.0	5.0
23	(K201×38-11)×Ky52:132.....	36	17	82	62	98	36	1.0	0
24	(K201×38-11)×Ky52:134.....	32	18	74	84	99	34	2.2	0
25	(K201×38-11)×Ky52:136.....	41	18	80	74	99	31	1.5	.9
26	(K201×38-11)×Ky52:138.....	40	18	84	54	100	30	3.0	1.7
27	(K201×38-11)×Ky52:140.....	40	19	80	93	98	26	2.0	1.8
17	(K201×38-11)×N47556.....	31	18	76	92	99	35	2.5	2.5
32	(K201×38-11)×N47587-9.....	30	16	77	70	98	34	3.5	2.9
16	(K201×38-11)×N47904.....	36	18	81	63	98	31	2.0	3.3
33	(K201×38-11)×N82481.....	40	18	79	98	100	34	1.0	3.6
54	(K201R×38-11)×Kys.....	31	17	80	22	99	32	1.0	0
50	(K201R×38-11)×K4.....	44	19	82	46	98	37	1.0	0
53	(K201R×38-11)×Ky36-11.....	36	21	79	55	99	36	1.0	4.3
52	(K201R×38-11)×Cl.7.....	40	18	81	78	100	35	1.0	2.7
51	(K201R×38-11)×Cl.21E.....	49	18	82	58	100	32	1.0	0
	Average.....	42	18	81	65	99	33	1.8	1.3

**B — Double crosses**

Ill. 1852.....	50	18	82	75	100	34	1.5	.9
AES 805.....	48	15	80	57	100	31	1.5	1.7
K1830.....	45	16	80	52	100	34	1.2	1.7
Ill. 1850.....	41	18	80	85	99	33	2.2	.8
Average.....	46	17	80	67	100	33	1.6	1.3
Significant difference.....	9	..	..	20	2	3	.9	...

<sup>a</sup> Grade 1 is most resistant; grade 4 is most susceptible to high temperature.

Table 12. — DOUBLE-CROSS HYBRID NUMBERS,  
PEDIGREES, AND INDEX TO TABLES

Hybrid	Pedigree	Performance given in Table No.
<b>Illinois hybrids</b>		
21.....	(Hy2 × 187-2) (WF9 × 38-11).....	2ABCDE, 6ACDE
101.....	(M14 × WF9) (187-2 × W26).....	2ABCDE
200.....	(WF9 × 38-11) (L317 × K4).....	10ABCDE
274-1.....	(Hy2 × WF9) (Oh7 × 187-2).....	4BCDE, 6ABCDE
972A-1.....	(Hy2 × L317) (WF9 × Oh7).....	4BCDE, 6ABCDE
1091A.....	(Hy2 × 187-2) (M14 × WF9).....	2ABCDE
1277.....	(M14 × WF9) (I.205 × 187-2).....	2ABCDE, 4ABCDE
1279.....	(M14 × WF9) (A375 × 187-2).....	2ABCDE
1280.....	(M14 × WF9) (Os420 × 187-2).....	2ABCDE, 4ABCDE
1281.....	(M14 × WF9) (A374 × A375).....	2BCDE
1289.....	(M14 × W22) (WF9 × I.205).....	2ABCDE, 3B
1290.....	(M14 × 187-2) (WF9 × I.205).....	2ABCDE, 4ABCDE
1332.....	(Hy2 × Oh7) (WF9 × 38-11).....	4BCDE, 6ABCDE, 10ABCDE
1349.....	(38-11 × Mo940) (K155 × K201).....	10ABCDE
1375.....	(M14 × WF9) (N6 × Oh51A).....	2ABCDE
1421.....	(Hy2 × WF9) (P8 × Oh7).....	6BCDE
1493.....	(WF9 × I.205) (Oh28 × W22).....	2BCDE
1511.....	(Hy2 × WF9) (38-11 × L304A).....	4BCDE, 6ABCDE, 10CDE
1539A.....	(38-11 × CI.7) (K201 × CI.21E).....	10ABCDE
1555A.....	(WF9 × Oh51A) (I.224 × Oh28).....	2ABCDE, 4ABCDE
1557.....	(M14 × Oh28) (I.205 × Oh51A).....	2ABCDE
1558.....	(M14 × WF9) (I.205 × Oh28).....	2ABCDE
1559B.....	(M14 × Oh28) (WF9 × Oh51A).....	2ABCDE
1560A.....	(WF9 × Oh51A) (I.205 × Oh28).....	2ABCDE, 4ABCDE
1570.....	(Hy2 × Oh41) (WF9 × 38-11).....	4BCDE, 6ABCDE, 10ABCDE
1575.....	(M14 × WF9) (L12 × Oh28).....	2ABCDE, 4ABCDE
1579.....	(M14 × Oh43) (A73 × Oh5).....	2BCDE
1585.....	(M14 × L289) (Oh5 × Oh43).....	2BCDE
1595.....	(WF9 × I.205) (187-2 × W22).....	2ABCDE
1617.....	(WF9 × B10) (Oh7 × Oh41).....	4BCDE
1656.....	(C103 × Hy2) (WF9 × 38-11).....	10BCDE
1657.....	(K4 × Oh7) (K201 × CI.21E).....	10ABCDE
1759.....	(WF9 × 38-11) (Oh4C × Oh45).....	6BCDE
1760.....	(WF9 × 38-11) (Oh29 × Oh45).....	4BCDE
1764.....	(Hy2 × WF9) (38-11 × J47).....	6BCDE
1767.....	(Hy2 × Oh45) (WF9 × 38-11).....	6BCDE
1771.....	(Oh7B × CI.7) (T8 × CI.21E).....	10BCDE
1777.....	(Hy2 × WF9) (R114 × R116).....	6BCDE
1788.....	(WF9 × 38-11) (Oh41 × CI.21E).....	6BCDE, 10BCDE
1799.....	(M14 × WF9) (B8 × Oh51A).....	2CDE
1800.....	(M14 × WF9) (A73 × A295).....	2CDE, 3B

(Table is continued on next page)

Table 12 — Continued

Hybrid	Pedigree	Performance given in Table No.
<b>Illinois hybrids (continued)</b>		
1802.....	(M14 × WF9) (A295 × Oh51A).....	2CDE
1813.....	(C103 × Oh45) (Hy2 × WF9).....	4CDE, 6DE
1814.....	(Hy2 × WF9) (M14 × Oh45).....	4CDE
1819.....	(R2 × WF9) (R61 × Oh43).....	4CDE
1826.....	(WF9 × B35) (K237 × Oh45).....	4CDE
1831.....	(WF9 × W146) (K237 × Oh45).....	4CDE
1849.....	(C103 × 38-11) (K201 × Cl.21E).....	10CDE
1850.....	(C103 × Cl.21E) (38-11 × K201).....	10CDE, 11B
1851.....	(C103 × 38-11) (Oh7 × Cl.21E).....	10CDE
1852.....	(C103 × Cl.21E) (38-11 × Oh7).....	10CDE, 11B
1856.....	(38-11 × Oh7) (K201 × Cl.21E).....	10CDE
1857.....	(38-11 × Oh41) (K201 × Cl.21E).....	10CDE
1859.....	(38-11 × Oh7) (Oh41 × Cl.21E).....	10CDE
1861.....	(M14 × WF9) (L.224 × Oh28).....	2DE
1862.....	(M14 × WF9) (Oh43 × Oh51A).....	2DE
1863.....	(M14 × WF9) (L.205 × Oh43).....	2DE, 3B, 4DE
1864.....	(M14 × WF9) (Oh43 × W22).....	2DE, 4DE
1865.....	(M14 × WF9) (Oh5 × Oh43).....	2DE
1866.....	(M14 × WF9) (Oh26A × Oh45).....	2DE
1868.....	(C103 × Oh43) (Hy2 × WF9).....	4DE
1873.....	(C103 × M14) (R75 × Oh43).....	4DE
1875.....	(C103 × 38-11) (Hy2 × WF9).....	4DE
1876.....	(R97 × R98) (WF9 × 38-11).....	6DE
1877.....	(R99 × R100) (WF9 × 38-11).....	6DE
1880.....	(R103 × R104) (WF9 × 38-11).....	6DE
1884.....	(C103 × R100) (WF9 × 38-11).....	6DE
1889.....	(C103 × Oh45) (38-11 × Oh29).....	6DE
1890.....	(C103 × Oh45) (R75 × 38-11).....	6DE
1893.....	(C103 × 38-11) (Oh7B × Oh29).....	10DE
1896.....	(R138 × R139) (R140 × R141).....	6DE, 10DE
1896A.....	(R139 × R141) (R138 × R140).....	4DE
1897.....	(R138 × R141) (R139 × R143).....	10DE
1902.....	(R138 × R142) (R139 × R141).....	2DE
1903.....	(M14 × WF9) (R119 × R120).....	2E, 4E
1904.....	(R81 × R85) (WF9 × 38-11).....	4E, 6E, 10E
1905.....	(R81 × R120) (WF9 × 38-11).....	4E, 6E, 10E
1906.....	(Hy2 × WF9) (R81 × R119).....	4E, 6E, 10E
1908.....	(R154 × R155) (WF9 × 38-11).....	4E, 6E, 10E
1909.....	(R130 × R151) (WF9 × 38-11).....	4E, 6E, 10E
1910.....	(R154 × R156) (WF9 × 38-11).....	4E, 6E, 10E

(Table is continued on next page)

Table 12 — Continued

Hybrid	Pedigree	Performance given in Table No.
<b>Illinois hybrids (continued)</b>		
1911.....	(R130 × R153) (WF9 × 38-11).....	4E, 6E, 10E
1912.....	(R151 × R156) (WF9 × 38-11).....	4E, 6E, 10E
1913.....	(R151 × R154) (WF9 × 38-11).....	4E, 6E, 10E
1914.....	(R153 × R155) (WF9 × 38-11).....	4E, 6E, 10E
1915.....	(R151 × R155) (WF9 × 38-11).....	4E, 6E, 10E
1916.....	(R130 × R154) (WF9 × 38-11).....	4E, 6E, 10E
1917.....	(R153 × R154) (WF9 × 38-11).....	4E, 6E, 10E
1918.....	(R151 × R153) (WF9 × 38-11).....	4E, 6E, 10E
1919.....	(R130 × R156) (WF9 × 38-11).....	4E, 6E, 10E
2214W.....	(R30 × Ky27) (H21 × K64).....	10ABCDE
2235W.....	(H21 × K64) (33-16 × Mo2RF).....	10ABCDE
2246W.....	(R144 × R145) (R148 × R149).....	10DE
2247W.....	(R144 × R145) (R146 × R148).....	2E, 4DE
6015.....	(R84 × 38-11) (R118 × K4).....	2E
6016.....	(R78 × K4) (R84 × 38-11).....	7B
6021.....	(R75 × R76) (R84 × K4).....	4E, 6E, 7B
6052.....	(R78 × 38-11) (R84 × K4).....	2E
6062.....	(R76 × K4) (R78 × R84).....	2E
6074.....	(R75 × R87) (R78 × R83).....	2DE
6075.....	(R75 × R83) (R78 × R87).....	6DE, 10DE
6076.....	(R76 × R78) (R87 × R117).....	10DE
6079.....	(R78 × R84) (R87 × R119).....	10DE
6102.....	(R75 × R85) (R84 × R87).....	10DE
<b>Miscellaneous hybrids</b>		
AES 510.....	(WF9 × W22) (H19 × B9).....	2E
AES 610.....	(M14 × A73) (Oh43 × Oh51A).....	2CDE
AES 702 (Ill. 1790)...	(C103 × M14) (Hy2 × WF9)....	2BCDE, 3B, 4BCDE, 5C
AES 801.....	(WF9 × B7) (B10 × B14).....	6CDE
AES 802.....	(Hy × WF9) (38-11 × N6).....	6CDE
AES 803.....	(WF9 × 187-2) (N6 × K148).....	6CDE
AES 805 (Ill. 1770)...	(C103 × Oh45) (WF9 × 38-11)....	4BCDE, 6BCDE, 7B, 8C, 9C, 10CDE, 11B
AES 806.....	(Hy × WF9) (N6 × N15).....	4CDE, 6E
AES 903W.....	(H28 × K55) (H30 × K41).....	10E
Ind. 0421.....	(M14 × WF9) (B9 × W22).....	2CDE
Ind. 1405.....	(H41 × H42) (H45 × H46).....	4CDE
Ind. 2401.....	(M14 × WF9) (K237 × Oh45).....	4E
Ind. 2609.....	(WF9 × 38-11) (H14 × Oh43).....	6E
Ind. 9502.....	(H26 × H27) (H28 × H29).....	6E
Iowa 4297.....	(M14 × 187-2) (WF9 × I.205).....	4BCDE, 5C
Iowa 4558.....	(M14 × WF9) (B8 × B21).....	2E

(Table is concluded on next page)

Table 12. — Concluded

Hybrid	Pedigree	Performance given in Table No.
<b>Miscellaneous hybrids (concluded)</b>		
Iowa 4615.....	(Hy × WF9) (B14 × B36).....	6E
Iowa 4630.....	(M14 × B21) (WF9 × Oh51A).....	2E
I.S.P. 2.....	(C103 × Oh45) (M14 × WF9).....	2CDE
K1830.....	(K201 × 38-11) (K4 × Cl.7).....	11B
Minn. 4.....	(A286 × A295) (A375 × Oh51A).....	2E
Minn. 40.....	(A73 × A401) (A286 × Oh51A).....	2E
Mo. 804.....	(Cl.7 × K4) (38-11 × Cl.21E).....	10ABCDE
Mo. 862.....	(K201 × T202) (Cl.21E × Mo567).....	10BCDE
Mo. 4041W.....	(WhHy × K55) (Wh38-11 × 33-16).....	6CDE
Mo. 8010W.....	(K64 × Mo22) (T111 × T115).....	10E
Ohio M15.....	(Oh26 × Oh51) (A × W23).....	2CDE
Ohio K24.....	(WF9 × Oh51A) (Oh33 × Oh40B).....	2BCDE, 3B
Ohio 3247.....	(Oh43 × Oh45) (Oh51A × W22).....	4E
Ohio 4808.....	(Oh4C × Oh51A) (Oh28 × Oh45).....	6CDE
Ohio 5305.....	(A73 × Oh5) (Oh26A × Oh51A).....	2E
Tenn. 3473.....	(M14 × 751) (T206 × 61.984-8).....	6E
Tenn. 3744.....	(H21 × K6) (T111 × T115).....	10E
U.S. 13.....	(Hy × L317) (WF9 × 38-11).....	6ABCDE, 7B, 8C, 9C, 10ABCDE













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